Technical Report # 22

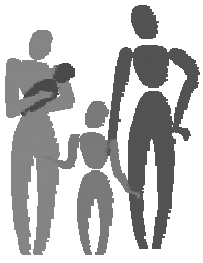
An Assessment of Health Promoter Effectiveness in Rural El Salvador

Final Report

January 2001

By: Sandra Echeverría, former Evaluation and Research Specialist, PRIME/Latin America and Caribbean Region
Alfredo L. Fort, Monitoring and Evaluation Director, PRIME/Chapel Hill
Milton Cordero, Clinical Reproductive Health Specialist, PRIME/Latin America and Caribbean Region
John Massey, Consultant, Supervisor of Fieldwork and Data Entry in El Salvador
Ann Lion-Coleman, PRIME Regional Director for Latin America and Caribbean
Douglas Jarquín, Resident Project Coordinator, PRIME/El Salvador

PRIME Project
Latin America and Caribbean Region



This publication was produced by Intrah at the University of North Carolina at Chapel Hill for the PRIME II project and was made possible through support provided by the G/PHN, Global, U.S. Agency for International Development, under the terms of Grant No. HRN-A-00-99-00022-00. The views expressed in this document are those of the authors and do not necessarily reflect the views of the U.S. Agency for International Development.

PRIME II is a project for training and supporting primary providers of reproductive health services around the world. PRIME II is implemented by Intrah in collaboration with Abt, AVSC International, Ipas, Program for Appropriate Technology in Health, and Training Resources Group, Inc.

ISBN 1-881-961-62-1

Suggested citation: Echeverría, Sandra, Alfredo Fort, Milton Cordero, et al. Assessment of Health Promoter Effectiveness in Rural El Salvador. Chapel Hill, NC: Intrah, PRIME Project, 2001. (PRIME Technical Report 22)

Intrah
School of Medicine
The University of North Carolina at Chapel Hill
CB # 8100, 1700 Airport Road, Suite 300
Chapel Hill, NC 27599-8100 • USA
Phone: 919-966-5636 • Fax: 919-966-6816
E-mail: intrah@intrah.org • http://www.intrah.org

East/Southern Africa
P.O. Box 44958
Nairobi, Kenya
Phone: 254-2-211820
Fax: 254-2-226824

Asia/Near East
IFPS LiaisonOffice
50 M Shantipath
Gate Number 3 Niti Marg
Chanakyapuri
New Delhi 110021, India
Phone: 91-11-410-0966
Fax: 91-11-410-0968

West/Central/North Africa
B.P. 5328
Dakar-Fann, Senegal
Phone: 221-864-0548
Fax: 221-864-0816

Latin America/Caribbean
Federico Henríquez y Carvajal #11
Los Casicasaz
Santo Domingo, Dominican Republic
Phone: 809-221-2921
Fax: 809-221-2914

For more information on this publication or to order additional copies, please contact the Communications Unit at the Chapel Hill office listed above.

Contents

Figures and Appendices

Acronyms

ADS	Asociación Demográfica Salvadoreña
Agape	NGO dedicated to population/reproductive health programs
APSISA	"Apoyo a los Sistemas de Salud" project
ARI	Acute Respiratory Infection
ASPS	Asociación Salvadoreña para la Promoción Social
BCG	TB vaccination
CBD	Community-based Distributors
DPT	Diphtheria, Pertusis, Tetanus (vaccine)
EOC	Essential Obstetric Care
FESAL	Encuesta Nacional de Salud Familiar (DHS) – El Salvador
FP	Family Planning
FUSAL	Fundación Salvadoreña para la Salud y el Desarrollo Humano
GOES	Government of El Salvador
IEC	Information, Education and Communication
IPM	Investigaciones de Población y Mercadeo (Private Firm)
MSPAS	Ministerio de Salud Pública y Asistencia Social (MOH)
NGO	Non-governmental organization
OC	Oral Contraceptives
OEF	Asociación para la Organización y Educación Empresarial Femenina
ORS	Oral Rehydration Solution
ORT	Oral Rehydration Therapy
PROSAMI	Proyecto de Salud Materno Infantil
SALSA	Salvadoreños Saludables (project)
Serafín	NGO dedicated to population/reproductive health programs
SPSS	Statistical Package for Social Sciences (software)
VISISA	Vitalización Programas de Salud

Acknowledgements

The authors would like to thank the following:

Dr. Paul Stupp, Reproductive Health Division at the Centers for Disease Control and Prevention (CDC), for his technical assistance in the design of the sampling methodology, and review and support of the analytical framework used in this study.

Ms. Diane Catotti, Management and Training Specialist, PRIME, for her review and commentary on the report.

Ms. Susan Eudy, Communication Projects Manager, for her review and management of printing and dissemination.

Ms. Barbara Wollan, Production and Database Specialist, for her formatting of the document.

The many women who agreed to share their health history with us, and the data collection team that recorded this information.

The USAID Mission of El Salvador for providing the financial support and technical direction for the study.

Executive Summary

This report describes the results of a national-level evaluation of the effect of rural health promoters in improving health behavior in El Salvador. El Salvador has utilized health promoters, both in the Ministry of Health (MOH) and through private organizations, to extend services to marginalized rural communities. The purpose of the study was to assess the effectiveness of health promoters in 3 key areas:

- Extent of health promoter contact and coverage in the community
- Health promoter impact on family planning/reproductive health
- Health promoter impact on child health

In order to better measure the influence of promoters, health behavior and outcomes were compared between women who were "exposed" to health promoter visits and those with no exposure. Whenever possible and appropriate, results were broken down to show separate effects in the MOH-only promoter segment. A total of 2,044 women from 15 to 49 years of age were interviewed. The study design is a representative sample of rural women. Study results and recommendations are presented by key area below.

Promoter Access and Coverage

Results indicate that approximately 80% of rural women in El Salvador know of health promoters and the services they offer. Of the 20% of women who have never heard of health promoters, a slightly larger portion than expected are women 15 to 19 years of age. Fifty-six percent of women who knew about promoters reported that a health promoter had visited them at least once in the past 3 months (i.e., have been "exposed" to a promoter). This proportion rose to 65% in the MOH-specific segment.

Effect of Promoters on Reproductive Health

Family planning use was higher if women were exposed to health promoters as compared to women not exposed (48.8% against 46.5%); and more so if exposed within an MOH area (48.5% against 36.5% in the MOH area). There is a strong association between exposure to health promoters and use of reversible methods. Women who had no exposure to a promoter were more likely to be sterilized (56.5% vs. 43.9%). The largest suppliers of oral and injectable hormonal methods are the MOH health units and commercial pharmacies. ADS promoters are also an important source, especially regarding injectables. Results also indicate that exposure to a health promoter is positively associated with increased prenatal care.

Effect of Promoters on Child Health

Women exposed to health promoters were more likely to possess MOH vaccination records. Among women with an MOH immunization card, 43.6% said that an MOH promoter helped them with the immunization of their children. More women who were exposed to a health promoter reported that they started oral rehydration therapy during a diarrheal episode. For children with high fever and labored breathing (as signs of more serious acute respiratory infection), more mothers sought health care if they were exposed to a promoter than not (56.2% vs. 50.2% in all areas; 70% vs. 43% in the MOH area). However, still a sizable proportion of women did not take children manifesting these symptoms to a health professional.

Programmatic Aspects

Qualitative information revealed that promoters were feeling overburdened by the multiplicity of tasks assigned to them and also by the fact that in some communities there was too large a ratio of inhabitants per promoter. Among the factors that can improve their performance they mentioned the need for more equipment and supplies, assistance with transportation and an improved supervisory system.

Recommendations toward increased effectiveness of the promoters as well as for increased sustainability of the program are put forward, by technical and programmatic areas based on the results above.

Introduction

Background

El Salvador began its health promoter program in the mid-1970's as part of the worldwide movement to expand primary health care and extend coverage to underserved populations. This first group of men and women brought basic, simple health services to rural populations. Since then, the concept of primary-level health workers has flourished in both the public and private sectors.

In 1995, nearly 5,000 promoters were working in El Salvador (IPM, 1995). USAID has supported promoters in the Ministry of Health program almost without interruption. From 1984 to the present, USAID's VISISA, APSISA, and now SALSA projects supported different aspects of the delivery of health services by the MOH promoters in rural areas. This assistance has included technical assistance and program support funds.

USAID also has strongly supported the private non-profit sector in their efforts to reach rural populations with basic health services. The Asociación Demográfica Salvadoreña (ADS), an IPPF/WHR affiliate, is the largest non-governmental organization (NGO) providing reproductive health services utilizing health promoters. USAID supported ADS, along with other NGOs, including PROSAMI, World Vision, and AGAPE, although their support was less and of shorter duration.

In December of 1998, the USAID Health Office in El Salvador asked the PRIME project to conduct a study to assess the effectiveness of health promoters in the country, particularly rural health promoters. USAID expressed an interest for empirical evidence concerning the 25-year history of health promoter programs in El Salvador. This report describes the results of a national evaluation of rural health promoter performance in El Salvador[1]. The results are expected to aid USAID and the MOH, and possibly the ADS, in strengthening future program planning and resource allocation of health promoter programs. The conclusions and recommendations presented here were developed in consultation with PRIME/Chapel Hill and Latin American and Caribbean (LAC) experts, and final recommendations will be developed with host-country input.

[1] Note: The present study is one-time cross-sectional, thus will not provide a longitudinal perspective of changes over time, but a snapshot of the current situation.

Methodology

The study was designed to assess the effectiveness of health promoters in the prevention of diseases and the promotion of positive health seeking behaviors in their communities. Effectiveness was examined in four key areas: promoters' contact with families, family planning and other reproductive health services, child health and perceptions of factors facilitating and hindering promoters' performance. The study had a main quantitative population-based survey component and a smaller and complementary qualitative component.

The quantitative study used a multi-stage random sampling of rural households and the unit of analysis was women of reproductive age (15-49 years). In order to allow for meaningful comparisons, the study used the same sampling frame as that of the Family Health Survey of El Salvador (FESAL) of 1998. Furthermore, to allow for analyses by specific types of promoters, the FESAL segments were equated to 5 promoter strata: the No Promoter, MOH Only, ADS Only, MOH + ADS Only and MOH, ADS and other NGO strata. At the analysis stage, respondents were divided between those who were "exposed" and those not exposed to the influence of health promoters. For the study exposure was defined as whether the woman had had at least one visit by a promoter in the last 3 months.

In addition to the sample survey, the study was complemented by interviews to a sample of health promoters and supervisors on perceptions about each others' roles in health care delivery, mechanisms of supervision and job satisfaction. All field work was conducted between April and May of 1999. Appendix 1 describes the study methodology in detail.

Results

General Survey Results

Households Contacted and Interviews Completed

Table 1 illustrates the total number of interviews completed according to the original sampling frame. An average of 30 houses were contacted in each segment. Of the 2,881 households contacted, 2,255 households had an eligible woman present and the final total number of women interviewed was 2,044 (a 91% response rate).

Table 1. Number of Households Contacted and Interviews Completed, per Study Stratum.

Study Strata	Total No. of FESAL 1998 Segments	Total No. of PRIME Segments	Number of Households Contacted	Total No. of Completed Interviews*
No Promoter	*40*	*18*	*495*	329
MOH Only	82	19	573	436
ADS Only	34	21	650	440
ADS and MOH	98	20	594	452
All 3 (MOH, ADS, & NGO)	93	20	569	387
TOTAL	**347**	**98****	**2,881**	**2,044**

* Women from 15 to 49 years of age. ** 28% of all FESAL segments

Characteristics of Health Promoter Programs

Different types of health promoter programs were examined in this study, as presented in Table 2. The MOH program is the largest program in the country that uses rural health promoters as full-time salaried health workers. MOH promoters address 6 public health areas: family planning, maternal health (prenatal and postpartum care), prevention and management of ARI, prevention and management of diarrhea, immunization, and water and waste management. MOH promoters use house-to-house outreach to provide these services, and for purposes of this study are defined as having an "active outreach" system.

ADS promoters work almost exclusively in the promotion and provision of family planning, though to a lesser extent supporting other health activities (e.g., prevention and referral of diarrhea cases, prevention of ARI, prenatal care referrals, etc.). Prior to 1996 ADS had an "active" outreach system that was similar to the MOH program, where promoters conducted household visits and were

salaried workers. Due to shortages in funding, however, the ADS program was reduced and promoter outreach was redefined. The ADS program now uses a strategy based on "distribution posts", in which the promoters provide services at their community locations, based on increased client accessibility, rather than actively conducting outreach home visits. The program has 2 types of promoters. One type of promoter exclusively provides family planning services and receives a small profit for the sale of contraceptives in the community. The other type of promoter provides family planning and general health services.

In the early 1990's the PROSAMI project was started as an expansion of the private NGO sector. PROSAMI was funded by AID and functioned as an "umbrella" project for up to 35 NGOs that delivered services to mothers and children. At its peak, the PROSAMI network provided services through about 600 health promoters. These promoters focused their services around reproductive health needs and infant and child health care, plus were trained to dispense a short, basic list of medicines. In 1997, approximately 18 members of the PROSAMI network transferred over to a GOES program.[2] The PROSAMI project ended in December 1998 and as such represent a small fraction of the sampled promoters.

Table 2. Characteristics of Health Promoter Programs as of December 1998.

Agency	Sector	Year Started	No. of Rural Health Promoters in 1998	Outreach Effort	Health Promoter Status
MOH	Public	1976	1,438	*Active*/ Door-to-Door	Full-time/ Salaried
ADS	Private	Early 1980's	1,061	Largely through distribution posts	Part-time/ either compensation or allowances
NGO	Private	*1970's*	*	Mix of Active and distribution posts	Full-time/ Salaried

* An exact figure was not obtained since many of these organizations no longer exist. The NGOs that fell in the sample include: PROSAMI, World Vision, AGAPE, ASPS, and FUSAL.

[2] This information was obtained through conversations with the Director of OEF, former PROSAMI NGO and with SERAPHIM, a non-profit foundation composed former PROSAMI central staff.

Sociodemographic Characteristics of the Study Population

Table 3 illustrates the sociodemographic profile of the study population. Half of the women interviewed were between 15 to 24 years of age, and 44.5% had less than fourth grade education. FESAL 1998 results (rural population) also are presented. The close similarities found in percentage distributions between the 2 studies confirm the comparability between the studies and are expected since the PRIME study followed the same sampling design as used in FESAL 1998.

Table 3. Sociodemographic characteristics of Rural Women 15-44 years of age, PRIME/LAC Study 1999 and FESAL 1998 (in percentages).

Sociodemographic Characteristics	PRIME Study (n= 1,868*)	FESAL 1998 (n=6,145*)
Marital Status		
Married/ In Union	61.5	59.1
Separated/ Widow/ Divorced	10.0	13.0
Single	28.5	28.0
Education (years)		
None	20.3	22.7
1-3	24.2	23.7
4-6	31.0	27.9
7-9	14.8	17.4
10 or more	9.6	8.2
Age (years)		
15-19	26.6	26.1
20-24	23.1	21.7
25-29	15.9	17.0
30-34	13.3	13.2
35-39	11.6	11.8
40-44	9.5	10.2
Number of Living Children		
0	30.0	30.1
1	16.7	14.8
2	15.1	16.6
3	13.7	14.4
4	10.6	9.7
5	5.0	5.4
6 or more	8.9	8.9

* Number of unweighted cases.

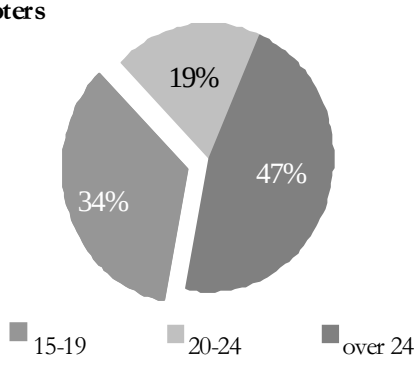
Contact between Health Promoters and the Community

Assessment of Community Awareness of Health Promoters and Services They Offer

In order for a community outreach program to be effective, health promoters must play an active role in the lives of the members they serve. A basic indicator of health promoter effort is the extent to which women are aware of health promoters, know of health promoters working in their communities, and how often they have been contacted by the promoter. Results indicate that approximately 80% of rural women in El Salvador have heard of health promoters and the services they offer.

Of the 20% of respondents who were not aware of health promoters, approximately 34% of these cases were women between 15 and 19 years of age (Graph 1). Although not very large, the difference between this percentage and that of the general population (i.e., 34% vs. 26.6%) is significant and seems to indicate a gap in promoter outreach to adolescents. For the other 2 age groups, the proportions were similar to the general population.

Graph 1. Age of Women Who Have Never Been Exposed to Health Promoters



Exposure to Health Promoters in the Community

The frequency with which a health promoter visits a household to provide health information and promotes use of services may play an important role in improved health outcomes. Just over one-half of women (56.2%) in all segments said a health promoter had visited them at least once in the past 3 months. This percentage is broken down in approximately 15% visited once and around 40% who were visited twice or more over the same period.

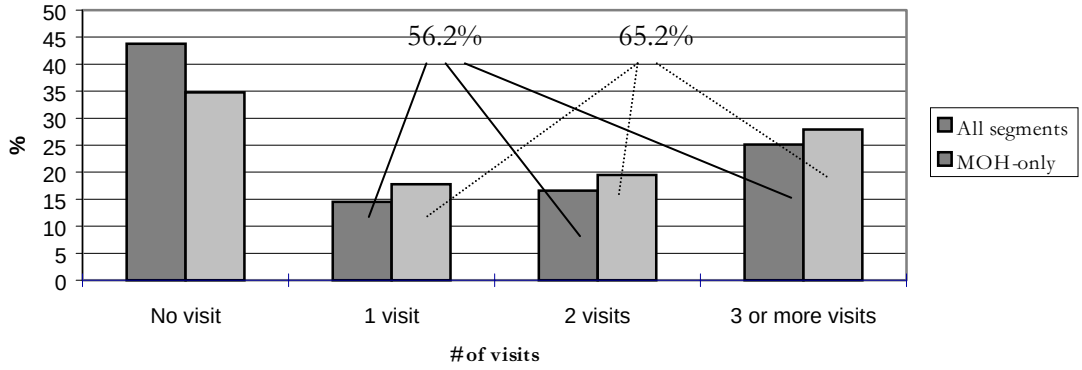
Further analysis revealed that the median number of times these woman was visited in the past 3 months was 2.[3] This 56.2% figure

[3] Since in a few cases women were visited more than 7 times, the median was a more representative measure than the mean.

constitutes women's *exposure* to promoters and although sizable, still reveals important proportions of women who are not contacted by a community health worker.[4] When data are broken down by segments, the percentage of women visited at least once rises significantly to 65.2% within the MOH-only segment. (see Graph 2)

In order to better discriminate the influence of promoters on health outcomes further analyses, where appropriate, will break down categories by whether women were exposed or not to a health worker.

Graph 2. Proportion of Women Visited in Past Three Months; by Frequency (January - March 1999)



Women were also asked about the amount of time it took them to reach the nearest health unit by whatever route they use (walking, car bus, etc.), and the relationship with a promoter's visit. Results indicate that women living more than 15 minutes away from a health unit were more likely to be visited by a promoter at least once in the past 3 months than if they lived closer (73.6% vs. 68.1%), and this difference was statistically significant ($p<.01$). This finding shows how the health promoter effectively complements the primary care given by the Unidades de Salud the farther women live from these facilities.

Effect of Health Promoters on Reproductive Health

Promoter Effect on Use of Contraceptive Methods

Contraceptive prevalence was 32.6% for all women 15 to 44 years of age in this study. **For women in union/ married (15 to 44 years old), contraceptive use was 47.2 % (Table 4), being female sterilization and injectables the most used methods.** Table 4 also shows that contraceptive use in the present study was similar to the overall contraceptive rate for FESAL 1998. Again, this similarity is

[4] It has to be acknowledged that the present study is not able to ascertain the indirect benefits o f the CBD programs, such as women's access to health units due to direct referral or through increased motivation brought about by the contact with a health promoter.

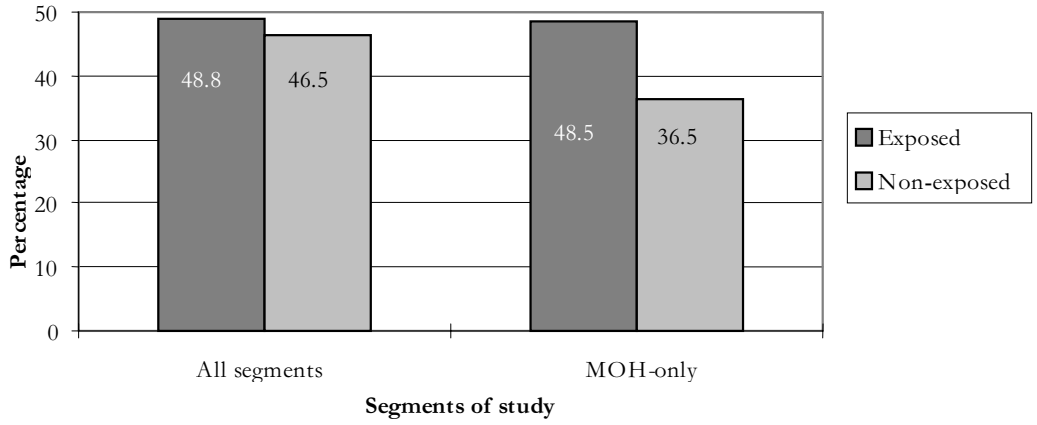
expected because of the sampling frame, as well as the profile of women.

Table 4. Current Method Use, by Type of Method, Married Women 15-44 years of age.

Current Use, by Method	PRIME/ LAC Study, 1999	FESAL 1998 Rural Population
Current Users Total	47.2	51.3
Female Sterilization	24.3	27.3
Injectables	11.6	8.6
Orals	6.9	8.0
Rhythm/ Billings	2.0	2.0
Condom	0.7	1.6
Withdrawal	0.6	2.3
IUD	0.6	1.0
Other (Vaginal methods, vasectomy, Norplant, and LAM)	0.5	0.5
Not Currently Using	52.8	48.7
No. Cases (unweighted)	*1,296*	4,125

Graph 3 shows that among married women 15 to 44 years of age, **family planning use was higher if the woman was exposed to a health promoter (p<.02).** A multivariate analysis additionally confirmed that having been exposed to a promoter was a good predictor of family planning use, even after controlling for age and parity (C.I.=1.03-1.28). When analysis is restricted to the MOH-only segment, the contrast is even more noticeable: among non-exposed women the use is 36.5%, compared to a high of 48.5% among women exposed to an MOH promoter. This finding already speaks for the beneficial effect of the MOH promoter's presence in a couple's/woman's decision to use any contraceptive method. Moreover, analyses below further corroborate how exposure to a promoter may improve on the quality of FP care by expanding the range of methods (i.e. reversible and irreversible) available to the population.

Graph 3: Current Family Planning Use by Exposure to a Health Promoter, Married Women 15-44 years. PRIME/LAC Study, 1999.



There is a strong association between exposure to health promoters and use of reversible FP methods. Results revealed that current users exposed to promoters were more likely to be using reversible methods, particularly oral contraceptives (OCs) and injectables (see **Table 5**). **Conversely, women who had no exposure to a promoter were more likely to be sterilized (i.e., 56.5% women sterilized among those not exposed vs. 43.9% sterilized among exposed women; p<.01)**.

This same phenomenon holds true if the analysis is confined to the segment containing mostly MOH promoters. For example, in that segment there is 5.5 times more use of oral contraceptives among exposed women than among those not exposed. Although injectable use is also high among exposed women (second to female sterilization, as occurs in all segments) it is not as high as among those not exposed, possibly reflecting the very recent expansion in the range of FP methods delivered by the promoters (Table 5). Until last year, MOH promoters were not allowed to prescribe oral contraceptives or administer contraceptive injectables, but were allowed to resupply OCs and refer to other outlets. It is possible that they referred women to MOH Health Units, pharmacies and to other sources depending on proximity and known supply of contraceptives, although this study did not document such referral role.

It is interesting to confirm that among exposed women in the MOH segment there is relatively less use of female sterilization than there is among not exposed women.

Table 5. Method Use, by Method Type and Exposure to Health Promoters (in percentages).

Type of Method Used	Exposure to Health Promoter			
	All Segments		MOH-only Segment	
	Exposed	Not Exposed	Exposed	Not Exposed
Oral Contraceptives	*18.1 %*	12.0 %	*17.1*	3.1
IUD	1.7	0.9	3.8	0.8
Condom	1.4	1.7	0.8	1.6
Injectables	27.8	22.8	26.2	37.4
Female Sterilization	43.9	56.5	43.0	50.0
Others*	7.1	6.1	9.1	7.1
Total	100.0%	100.0%	100.0%	100.0%

* Includes Rhythm, withdrawal, Norplant®, vasectomy, vaginal methods.

Most women using reversible methods in this study reported obtaining their methods mainly from clinics operated by the Ministry of Health (see **Table 6**). This is consistent with results of the reproductive health survey of 1998 (FESAL 1998). The second largest supplier of oral contraceptives are pharmacies, which represent the importance of the commercial sector in FP. ADS promoters, whose program is specifically directed to expand FP use in the country, constitute the second largest source of injectables, according to women interviewed. The MOH promoters, on the other hand, despite their recent appearance in FP supply, contribute at similar or higher levels as the Hospitals and Social Security clinics.

Table 6. Source of Method for Oral Contraceptives and Injectables, Married Women 15-44 years of age, PRIME/ LAC Study 1999.

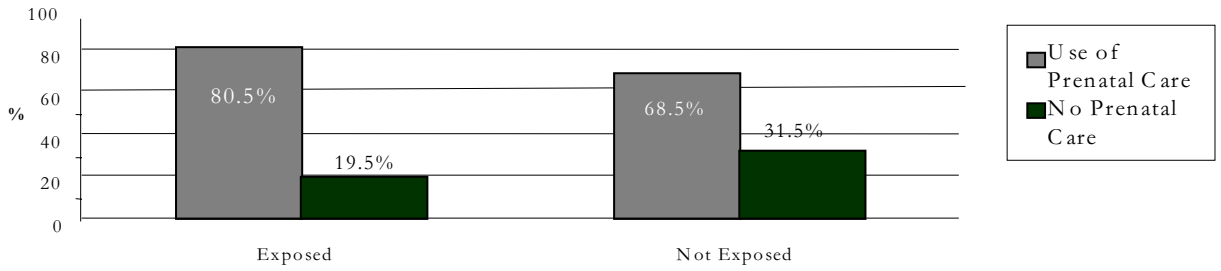
Source of Method	Current Method Used	
	Oral Contraceptives	Injectables
MOH Health Units (clinics)	*35.4 %*	50.9 %
MOH Promoters	8.1	8.0
ADS Promoters	13.2	24.2
Pharmacies	26.1	*
Social Security Clinics	11.1	6.3
Hospitals	6.2	7.4
Other (private clinics, etc.)	0.0	3.2
Total	100.1	100.0
N	371	522

* Few rural pharmacies dispense injectables in El Salvador.

Promoter Effect on Use of Prenatal Care Services

Exposure to a health promoter is positively associated with prenatal care use. Ever use of prenatal care service is 18% higher (80.5% vs 68.5%) among currently pregnant women who were exposed to all health promoters (in al segments) as compared to those not exposed (see Graph 4). Although small numbers (N = 160) preclude breakdown of data into subsets of promoter strata, this effect seems to be generally shared within segments. In a multivariate analysis controlling for education and age, overall exposure to a health promoter was still a good predictor of prenatal care use (C.I.= 1.33-2.9).

Graph 4. Prenatal Care Use by Exposure to Health Promoter Currently Pregnant Women, all Segments



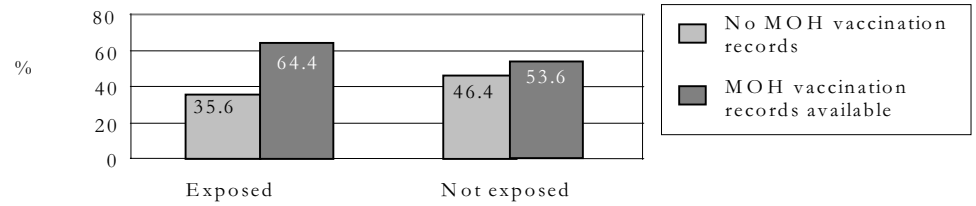
* Chi square=11.26; p<.05; N (unweighted) = 160

Effect of Health Promoters on Child Health

Immunization Status of Children Served by Promoters

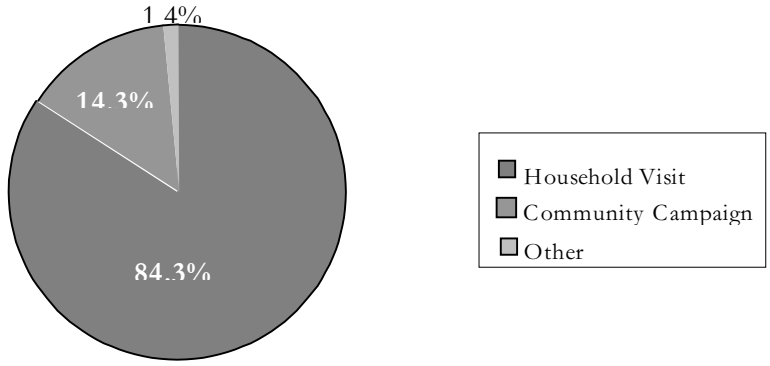
Approximately 60% of women with children who were surveyed had immunization records for their children. Results revealed that women who were exposed to health promoters were more likely to possess MOH vaccination records (64.4% vs. 53.6% in all segments studied; p<.01) (see Graph 5).

Graph 5. Availability of MOH Records by Exposure to a Health Promoter, PRIME/LAC Study, 1999



Among the women who possessed an MOH immunization card, 43.6% said that an MOH promoter helped them with the immunization of their children. When asked *how* the health promoter helped them, 84.3% reported that the promoter came to the house with the vaccine and 14.3% said that the health promoter organized a campaign in the community. The remainder of women were referred or given other assistance (see Graph 6).

Graph 6. Immunization Modes of Delivery by Ministry of Health Promoters in Rural El Salvador



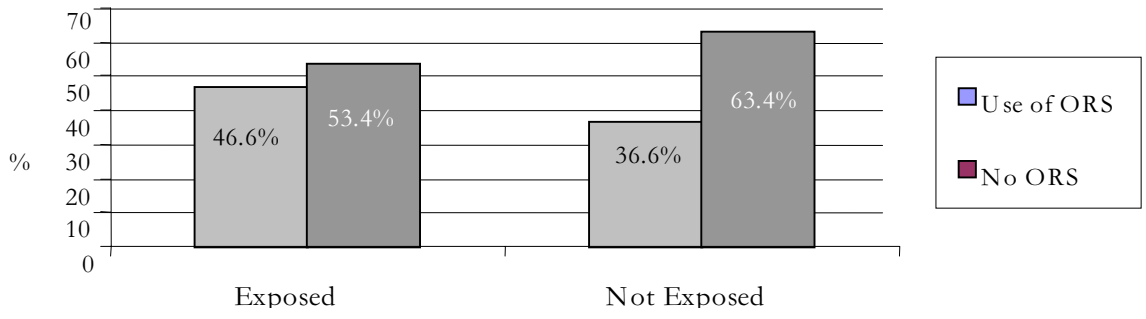
Results also revealed that exposure to a health promoter was significantly associated with children having the full course of DPT (84% vs. 80%), Polio (84% vs. 77%), and Measles (83% vs. 79%) vaccines ($p<.01$), as compared to non-exposure. The only vaccine that was not positively associated with promoter exposure was BCG. For this vaccine, results showed that although percentages are high overall, relatively fewer children of exposed mothers received BCG (82.3%) as compared with unexposed mothers (87.3%). The explanation for this seems to be in the big strides taken by the MOH

to ensure universal BCG vaccination at birth through a mandatory policy (i.e. each woman who has a home birth is expected to visit the health unit as soon as possible after birth to receive the first BCG dose). In extremely remote areas, where no promoter or health unit is found, the MOH sends out "Health Brigades" to apply vaccinations. These Brigades also apply the BCG, when necessary. However these brigades have specific coverage and do not use promoters. This may be the reason why MOH "non-exposure" is inversely related to achievement of BCG immunization.

Promoter Effect on Diarrhea Prevention and Treatment

Diarrhea prevalence in the study population was 17.9% (n=165 unweighted cases) and was similar to the rural FESAL 1998 rate of 22.1%. Diarrhea prevalence was measured (as with FESAL) for the 15 days before and up to the time of the survey among children less than 5 years old (born between 1993 to 1998). Because of small numbers involved it was not meaningful to break down figures by promoter segments, though the distribution of cases seemed similar across segments. In general, **more women who were exposed to any health promoter reported that they started oral rehydration therapy (ORT), during the diarrheal episode (p<.01) (see Graph 7).**

Graph 7. Use of Oral Rehydration Therapy Exposure to Health Promoter, Living Children Born between 1993-1998 (all segments)



When asked about danger signs in children with diarrhea, it was clear that –except for nonspecific "laziness" and sunken eyes and fontanel- few women could spontaneously cite signs such as "Skin pinch returns slowly" or "drinks desperately" (see Table 7).

Table 7: Mothers able to Spontaneously Cite Danger Signs in Children with Diarrhea, by Exposure to Health Promoter (in percentages)

Danger Sign	Exposure to Health Promoter	
	Not Exposed	Exposed
Sunken Fontanel	24.6	21.5
Blood in stools	9.8	10.6
Dry lips and tongue	9.1	11.3
Cries w/o tears	5.8	4.9
Drinks desperately	2.1	2.0
Skin pinch returns slowly	8.1	5.1
Sunken eyes	45.3	43.9
Lazy, sleepy	33.7	35.8

On a further question about actions the mother would take in the case of a child with diarrhea, it is encouraging to find that most women would either give them ORS (46%) or home based solutions (14%) or would take them to the *Unidad de Salud* (50%). Inappropriate/insufficient actions are reported by very small percentage of mothers, such as Take the Child to a C*urandero* (traditional healer) - 2%, Buy an Antidiarrheic Agent (6%) or an Antibiotic at the Pharmacy (1%). Again, there are no substantial differences between exposed and not exposed mothers (See Table 8).

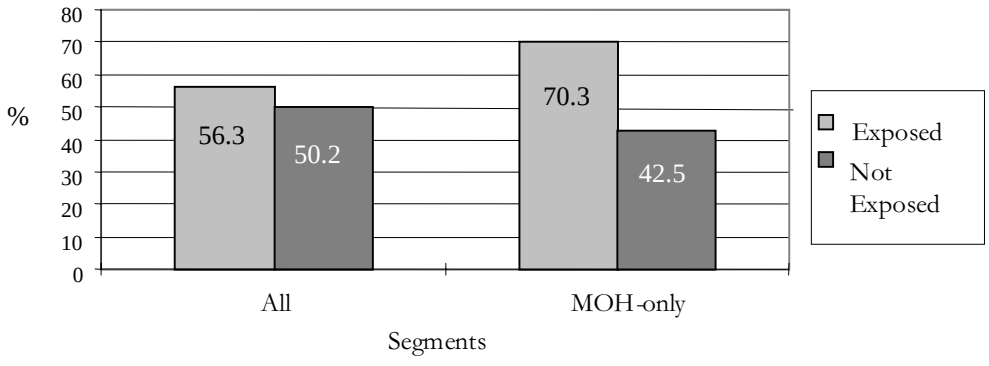
Table 8: Actions Mothers would take if their Children had Diarrhea, by Exposure to Health Promoter (in percentages)

Action to take	Exposure to Health Promoter	
	Not Exposed	Exposed
Give pre-packaged ORS	45.5	46.6
Give home-made ORS	13.5	14.0
Suspend solid foods	0.8	0.3
Give purgative	1.0	3.7
Buy Antibiotic in Pharmacy	1.1	1.8
Buy Antidiarrhic in Pharmacy	5.2	6.9
Search for Promoter	1.5	1.9
Take to the *Unidad de Salud*	51.4	49.1
Take to *Curandero*	1.6	1.5
D.K.	2.0	1.1

Promoter Effect on Acute Respiratory Infections

Forty-seven percent of mothers reported that their children had a respiratory condition in the past 2 weeks. These cases included any type of chest condition, ranging from the common cold to severe illness. It is important to note that this survey was carried out during the early part of the "winter" season in El Salvador, during which respiratory conditions significantly increase. Since this category was still too wide, a subset of children with high fever and labored breathing was selected to represent more serious illness, for further analysis. In this case, the percentage of children reported affected was 34.2% of the total. **Results indicate that approximately 47% of women did not take children manifesting these symptoms to a health professional.** When comparing women exposed to a promoter and those not exposed, however, more women (56.3%) sought health care if they were exposed to a promoter as compared to non-exposed women (50.2%;$p < .01$). The largest source of care was the doctors and nurses from the MOH health unit (approx. 36% of women). Here it was possible to break down the data into promoter segments and greater contrasts were found in the MOH-only segment. In such segment, **women with a sick child who had been exposed to a health promoter sought care in greater proportion (70.3%) than women not exposed to such resource (42.5%) (N = 426; p < .01)**. **(see Graph 8)**. Of interest is to note that among those who sought care in the MOH segment, 11.3% of women exposed to a health promoter sought their help, compared to women not exposed, who did not seek the help at all of a promoter.

Graph 8. Percentage of Women Seeking Health Care by Exposure to Promoter, Children with High Fever and Labored Breathing in Past Two Weeks



There was also a question in this section assessing women's knowledge of alarm/danger signs regarding acute respiratory infections. Women had to cite spontaneously one or more conditions. They do so for the more obvious signs, like fever and a noisy chest and these are important reasons for taking their children to medical care. However, other signs are mentioned by small proportions of women but these signs were non-specific to ARI (e.g., sleepiness, seizures), thus making interpretation difficult (See Table 9). As with diarrheal diseases, no differences were found in relation to exposure to a health promoter. This finding may indicate the need to continue providing health education to mothers through both mechanisms, IEC campaigns and through day-to-day contacts with health workers.

Table 9: Mothers able to Spontaneously Cite Danger/Alarm Signs in Children with ARI, by Exposure to Health Promoter (in percentages)

Danger Sign	Exposure to Health Promoter	
	Not Exposed	Exposed
Cannot swallow	16.5	13.9
Seizures	6.8	6.5
Laziness/sleepy	7.9	5.1
Noisy ("boiling") chest	55.4	62.8
Purple lips & skin	3.4	2.1
Fever that lasts days	46.9	45.7
Other	27.5	25.2

The sections presented above correspond to the quantitative aspect of the promoters' study. They show the influence of the health promoters in improved knowledge and behavior of mothers toward their own health and that of their children. However, no study attempting to describe the results of an ambitious community health worker program would be complete without including a section exploring facilitating and hindering factors to the success of such program, as perceived by the actors themselves. Thus, as is described in the methodology section, the study included a number of interviews to a sample of promoters and a self-administered questionnaire to promoters' supervisors, whose results are presented next. The qualitative information presented forthwith is of contextual nature and complements the quantitative information presented above.

Perceptions of Factors affecting Promoters' Performance

Perceptions by MOH Department level staff on the role of supervision

A few testimonials were gathered from MOH promoter personnel in the Departmental Health offices. These testimonials indicated that norms on the management of health promoters varied at the local level. In most cases, this function was assigned either to the Director of the Health Unit or a nurse, both of whom have many other responsibilities. Many informants stated that the Medical Director simply did not have time, and frequently lacked the interest or the information necessary for the provision of good orientation and management of the promoter program. Nursing personnel have many competing responsibilities as well, which do not permit dedication of sufficient time to supervision of promoters.

In some departmental offices, nursing staff have been assigned the task of overall supervision of the Program, but with similar results as happened at the Health Unit level. Some departments report that supervision has virtually stopped and the work of many promoters in communities has become disoriented or left to the personal initiative of the individual worker.

Perceptions by promoters on job requirements

During the 74 in-depth interviews conducted in the field, promoters were asked what factors they felt are important for doing a good job in their communities. Ninety percent of promoters mentioned the need for basic supplies and equipment to carry out their jobs. Among these, many mentioned paperwork, a simple desk and chair, uniforms, a backpack to carry their materials and other items. A steady supply of basic, simple medicines to treat common illnesses and conditions were thought to be important by 87% of the promoters interviewed. Other factors mentioned were "more support and recognition by the MOH" (36%), "more training to keep me up to date" (29%) and "the tools for improving community education, acceptance and participation of the community" (38%).

Promoters also were asked for specific ways in which their work could be more effective. Many reported that they lacked steady, effective supervision of their work in the communities. Others suggested increased time devoted to serving their communities and less to other tasks (mostly administrative), that although important, were not directly related to the health of persons in the assigned communities.

Perceptions of Chief Promoters

Prior to the decentralization of health services from the central to local level the Ministry of Health required that "Chief Promoters" act as supervisors. Many times, these Chief Promoters are senior, more experienced workers, who are assigned this supervisory role, in

addition to providing services to their assigned community. Each chief promoter may end up having the responsibility to supervise the daily activities of 60 to 100 promoters.

The supervisory promoters of the Ministry of Health in each of the 14 Departmental Health Offices were asked to provide reflective analyses and testimonials from their point of view on the "state of the promoter program" and what their recommendations for improvement might be.

Three themes were mentioned consistently by the Chief Promoters:

- Serious problems with supervision of promoters assigned to communities
- Frequent use of promoters for tasks outside their terms of reference and catchment areas
- Lack of supplies and equipment to carry out responsibilities

On the main theme, supervision, the chief promoters indicated that it has become more a review of reports and paperwork than regular contact with the Promoter in his/her community.

Other important areas mentioned as problems, include: size of the population being served by promoters at local level; an outdated information system for promoters (not reflecting promoter work); a general lack of understanding among other staff of the multiplicity of responsibilities of the promoter; and new recruits selected from outside the community of residence.

The chief promoters made the following recommendations:

1. Establish an administrative/normative structure at the Central Level, to ensure that the Promoter program functions smoothly and is well supplied
2. Strengthen the supervisory system by increasing the number of personnel, and returning to a ratio of 1 supervisor per 12 or 15 Promoters at the local level, in order to be able to provide close, frequent supervisory contact to these personnel. At the same time, increase the training of these personnel and provide them with adequate transport
3. Limit the tasks to be performed by the promoter to those directly related to the health of his/her assigned community
4. Provide recognition by the MOH of the contribution made by this group of workers to reductions in morbidity and mortality, improvements in basic rural sanitation and the changes in unhealthy lifestyles in the target population
5. Establish a functional, practical promoter-to-population ratio which permits minimum adequate coverage of the health needs of rural populations. A ratio of 1 promoter to 1,500 population was

suggested

6. Create additional slots for promoters to be assigned to areas where effective coverage is limited
7. Update the information system, both in the primary report forms and in the structure and use of the system data at the national level
8. Investigate alternatives for provision of transport to community level promoters, such as funds for the purchase of motorcycles or horses, which could be reimbursed through payroll deductions
9. Provide logistic support to community-level promoters, including: adequate and timely supply of authorized medicines, paperwork, educational material and replacement expendables, such as uniforms, shoes, and thermometers

In general, it can be seen that perceptions of both field and supervisory promoters, coupled with opinions expressed by health personnel, indicate the need to provide better organization of the program and more support to the promoters in the field. Although promoters can impact positively on the health behaviors and outcomes of the population they serve, it is important to evaluate their needs to ensure the sustainability of such impact. These aspects and others will be discussed in the Conclusions section.

Conclusions

Promoter Access and Contact

The vast majority of rural women in El Salvador (80%) know of health promoters and the services they offer. This finding is a laudable result of the 25-year history of health promoter programs in the country. Of the 20% of women who did not know of health promoters, however, adolescents 15 to 19 years of age were over-represented. This finding may indicate that adolescents are less prone to seek services from promoters, but also stresses the need for promoters to be more proactive in ensuring coverage to this population of greater vulnerability.

By multiplying the percentage of rural women who said they have heard about the health promoters (80%) by the percentage of those who were visited in the last 3 months (56%), the result indicates that about 45% of all rural women in El Salvador have been contacted recently by a health promoter. According to MOH norms, promoters should visit households with children or women of fertile age at least once a month. Although this is a very stringent policy for rural areas, women in our sample were visited at an average of 2 visits in 3 months, which is quite an accomplishment. The remaining half, not visited, constitutes a challenge to the program. Factors mentioned by promoters themselves in the qualitative study, such as large catchment areas, transportation difficulties and extended responsibilities (discussed later) will have to be taken into account in order to improve their outreach.

Effect of Promoters on Sexual and Reproductive Health

The findings in this study establish a positive association between having been visited at least once by a promoter in the past 3 months (i.e., having been "exposed" to a health promoter) and the use of family planning methods. While the relationship is true for all promoters, it is especially significant with the MOH-only segment, where FP use is 33% higher among the exposed women compared to the unexposed. This is an impressive gain considering that MOH promoters have until recently had restrictions in family planning distribution and the range of methods available at the community level. However, the positive influence of promoters in general is more evident in the type of methods used. In a country that has seen a disproportionately high use of permanent methods, the use of reversible methods was at least 5 percentage points higher among women exposed to a promoter, compared to women not exposed to a promoter. Conversely, the relative proportion of women being sterilized is 7 to 13 percentage points higher among unexposed than among exposed to either promoters in general or promoters of the MOH-only segment. In terms of sources of methods, the MOH Health Unit remains the single most-used source for injectables and

pills. Obviously, ADS promoters, fully devoted to the promotion of FP methods, are also an important source of reversible methods of contraception. In an increasing free market environment coupled with heightened awareness, pharmacies are becoming an important source for temporary methods and should be looked at carefully as an expansion of an integrated CBD strategy. The MOH promoters, although only recently expanding their capabilities in FP method delivery, are already producing an appreciable impact, allowing women to have an increased range of methods of contraception, which may help to reduce the higher prevalence of female sterilization. Expanded choice, at the same time, is a recognized element of quality of care.

In addition to the strong association between exposure to health promoters and improved method mix, promoters have a positive effect in encouraging women to seek prenatal care services. Prenatal care use among currently pregnant women was increased 12% among women exposed to a promoter, compared to women not exposed to a promoter. Though it is known that prenatal care alone is insufficient, it constitutes a point of contact for early and appropriate referral for pregnancy complications.

Promoter Effect on Child Health

There was a particular interest in this study to assess the extent to which Ministry of Health promoters provide vaccines directly in their communities. The study showed that promoters were actively promoting immunization through house-to-house contact. The majority of women who had contact with a promoter reported that they had immunized their children directly in the home. This was reflected in women's greater availability of MOH immunization records if they had been exposed to a health promoter. Similarly, promoters were associated with more children with completed doses of all the outreach vaccines (DPT, Polio and Measles).

Promoters greatly benefited children who had suffered from a diarrheal episode. Mothers were more likely to use oral re-hydration therapy if they had been exposed to a promoter. This is an important contribution to the reduction of childhood mortality associated with diarrhea, since ORT does not require mobilization to a health facility but does require wide dissemination of its use. Promoters also seem to have disseminated appropriate messages about using home-made ORT solutions to prevent dehydration. The fact that many mothers could not spontaneously mention danger signs of dehydration may imply that more work is needed in this area, in order to encourage prompt recognition and health care seek in severe cases.

Acute respiratory infections are a leading cause of death in developing countries and a major health problem in El Salvador. For children with high fever and labored breathing, exposure to promoters was

positively associated with a woman's decision to seek health care services. For MOH promoters the effect was even more noticeable: nearly two-thirds more mothers sought health care with a sick child if they were exposed to a promoter than if they were not. Nonetheless, nearly half of all women with a sick child (whether exposed or not exposed to promoters) did not seek any health care services. This finding is indicative of the many factors that stand in the way to prompt treatment of ARI. Although the question about ARI danger/alarm signs was not specific enough, it revealed little knowledge by women. There may also be transportation difficulties and antibiotic availability issues contributing to the problem. Where access to health facilities in rural areas constitutes a barrier to the reduction of childhood mortality due to ARI, administration of first-line antibiotics (e.g., co-trimoxasole) by promoters in pilot areas could be considered. In El Salvador, MOH promoters do not dispense medications to treat ARI.

Programmatic Aspects

The qualitative study helped provide a context in which the promoters operate, and at the same time revealed insights into programmatic aspects worth examining for the improvement of the entire promoter program. Four distinct factors hindering promoters' performance emerged from the qualitative study. These factors are: multiple tasks, unequal catchment population sizes, equipment and transportation, and supervision. Such factors are consistent with the 5 factors identified by the Human Performance Technology field as key to improved performance. Factors affecting performance are Information (i.e., clear job expectations and performance feedback), Environment (i.e., adequate tools, supplies and workplace), Motivation, Organizational Support (i.e., leadership, communication, supervision) and Skills and Knowledge to do the job properly (See Luoma, et al, 1999).

The fact that different programs add their objectives onto the tasks already carried out by promoters may contribute to the over-burdening perception expressed by them in appropriate environments and should be carefully assessed.

Promoters also have expressed concern about their assignment of disproportionately large catchment populations. When examining the segments used for this study, one often finds little relation between the number of promoters and the number of households in each *municipio* or *cantón*. For example in the sampling frames, there was a *cantón* containing 39 houses that had 2 MOH promoters, while another had more than 4 times as many (179) houses and only 1 promoter.

In any promoter program, logistics and transportation become a crucial component for its success. In this case, promoters identified a number of shortages and needs, ranging from educational materials,

paper, uniforms, shoes and medical supplies. Transportation shortages also were mentioned, which can contribute to poor performance and discouragement. Finally, supervision was highlighted as a crucial need. Supportive supervision accomplishes multiple goals, such as refresher training, motivation, planning and evaluation.

Recommendations

General

- The complementary role of health promoters in relation to health units and the primary health care strategy should be further refined. A rational deployment strategy and effective referral mechanisms should be implemented to increase promoters coverage and efficiency.
- To the extent possible, local health needs should be approached with an integrated view of promoters performance. Appropriate local programming, including prioritization of tasks, would help to ensure that promoters continue to be effective and are not overwhelmed. Adequate ratios of inhabitants per promoters should be defined, assigning more than 1 promoter in large communities. Pairs of promoters where appropriate, also could be an answer to isolation and high attrition rates.
- Design and establish a comprehensive local supervision system that would insure learning and performance objectives with the health promoters are met. Instructional, logistic, administrative and evaluation aspects can be reviewed during exchanges, thus aiding in increasing promoter morale and developing a strong coordination system between promoters, supervisors, and health units. At the same time, administrative tasks by promoters should be kept to the minimum.
- Health units in charge of promoters should ensure necessary supplies and re-supplies are delivered on time. Local initiatives should be sought to alleviate and improve transportation problems.

Promoter Access in the Community

- The role of promoters in reaching rural populations should be continued and expanded to reach those currently not exposed, especially young adults.
- Promoter coverage needs to be defined. Coverage should be based on the size of the population, local health needs, terrain conditions, and expected program outputs.
- Promoter outreach to young women should be increased. Training and norms could be developed to address gaps in service delivery to young adults.

Promoters Effect on Reproductive Health

- The role of health promoters should be continued in the areas of reproductive health/FP.
- In order to guarantee uninterrupted delivery of FP methods, continued efforts should be made to improve the logistics system, including monitoring to track family planning supply by promoters.

- Promoters should continue their efforts to encourage prenatal care visits. They should be supported with early referral/transportation of at risk women. A more comprehensive essential obstetric care (EOC) program at the primary and secondary levels would ensure adequate treatment of complicated cases.

Promoter Effect on Child Health

- The role of health promoters should be strengthened in the areas of immunization, use of ORT during diarrhea, and of basic treatment for acute cases of ARI.
- Health promoters should continue to receive full support in promoting oral re-hydration therapy in the community. Since ORS packets can be costly and often are unavailable, promoters should also be trained to promote use of oral solutions prepared in the home.
- Promoters' role in reducing mortality due to ARI needs further exploration. More active IEC among mothers to encourage early referral of a seriously ill child and revising existing norms governing promoters' dispensing of essential medications (under the guidance of supervisors) could be implemented through an operations research initiative in pilot areas.

Recommendations put forward here will be possible through a combination of political commitment, availability of funds and appropriate planning.

References

Chege, JN and Ian Askew. 1997. "An Assessment of community-based family programs in Kenya." *Population Council, Africa Operations Research and Technical Assistance Project*, 1997, January [6], vii, 62p. USAID Cooperative Agreement No. CCC-3030-C-00-3008-00.

Chernichovsky, Dov and Jon Anson. 1993. "Cost recovery and the True Cost-Effectiveness of Contraceptive Provision." *International Family Planning Perspectives, 19, 4: 129-133.*

Foreit, James R. 1992. "A Comparison of the Performance Of male and Female CBD Distributors in Peru." *Studies in Family Planning, 23, 1: 58-62.*

Hossain Mian B. and James F. Phillips. 1996. "The Impact of Outreach on the Continuity of Contraceptive Use in Rural Bangladesh". *Studies in Family Planning, 27, 2: 98-106.*

Janowitz, Barbara and John H. Bratt. 1992. "Cost of Family Planning Services: A Critique of the Literature". *International Family Planning Perspectives, 18, 4: 137-144.*

Janowitz, Barbara, et al. 1992. "Impact of Social Marketing on Contraceptive Prevalence and Cost in Honduras." *Studies in Family Planning, 23, 2: 110 - 117.*

Klitsch, Michael and Julia A. Walsh. 1988. "Finding the Keys to Success: What Makes Family Planning and Primary Health Care Programs Work?" *International Family Planning Perspectives, Vol 14, No. 2, pp. 20 - 24 & p. 41.*

Koenig, Michael, Vincent Fauveau, Bogdan Wojtyniak, B. 1991. "Mortality Reductions form Health Interventions: The Case of Immunizations in Bangladesh." *Population and Development Review*, *17, No. 1, pp. 87-104.*

Lewis, M, Eskeland, G and Traa-Valerezo, X. 1997. "Health Care in Rural El Salvador: Illness, Health Services Supply and Health Seeking Behavior." IDB, San Salvador.

Luoma, Marc, Sharon Rudy, Constance Newman, Alfredo Fort, James Mc.Caffery and Fred Rosensweig. 1999. "PRIME's Reproductive Health Performance Improvement Source Document", Chapel Hill, NC: INTRAH.

"Manual del Promotor de Salud." Ministerio de Salud, El Salvador. 1992.

Phillips James F., Mian Bazle Hossain, Ruth Simmons, and Michael A. Koenig. 1993. "Worker-Client Exchange and Contraceptive Use in Rural Bangladesh." *Studies in Family Planning, Vol. 24, 6:329-342.*

"Recommended Occupational Profile for the Health Promoter." Ministerio de Salud de El Salvador. August 1995. SubDirectorate General for PHC, San Salvador.

Rubin George, Charles Chen, Yolanda de Herrera, Vilma de Aparicio, John Massey, and Leo Morris. 1983. "Primary Health Care Workers: The Rural Health Aid Program in El Salvador". *Bulletin of the Pan American Health Organization, 17(1): 42-50.*

Simmons Ruth and Christopher Elias. 1994. "The Study of Client-Provider Interactions: A Review of Methodological Issues". *Studies in Family Planning, Vol. 25 , 1: 1-17*.

Stinson Wayne S., James F. Phillips, Makhilsur Rahman, and J. Chakraborty. 1982. "The Demographic Impact of the Contraceptive Distribution Project in Matlab, Bangladesh." *Studies in Family Planning Studies, Vol. 13, No.5, pp. 141-147*.

Tecke, Belgin. 1982. "Oral Rehydration Therapy: An Assessment of Mortality Effects in Rural Egypt." *Studies in Family Planning, Vol. 13, No.11, pp. 315-327*.

Vernon, Ricardo, Gabriel Ojeda, and Marcia C. Townsend. 1988. "Contraceptive Social Marketing and Social Marketing and Marketing and Marketing and Marketing and and Community – Based Distribution Systems in Colombia." *Studies in Family Planning, 19, 6: 354-360*.

Vernon, Ricardo, et al. 1993. "The Impact of a Perinatal Reproductive Health Program in Honduras." *International Family Planning Perspectives, Vol. 19, No. 3, pp. 103-109*.

Williamson, Nancy. 1982. "An attempt to Reduce Infant and Child Mortality in Bohol, Philippines." *Studies in Family Planning. Vol. 13, No. 4, pp. 106-117*.

Zaldivar, M., Iraheta, R., Zaldivar, G. 1987. "El Papel del Promotor Social en el Proceso de Cambio de El Salvador 1979-1985." *Trabajo de Graduación, Licenciattura en Trabajo Social, Universidad Tecnologica, San Salvador*.